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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/541,765	04/03/00	KLEE	M PHD 99.046

EXAMINER

MM91/0410

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ART UNIT	PAPER NUMBER
THOMAS, E	
2831	

DATE MAILED:
04/10/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/541,765	KLEE ET AL.	
	Examiner	Art Unit	
	Eric W Thomas	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Currently, the abstract is not in a single paragraph format, and the phrase "fig. 1" should be deleted from the last line thereof.

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Objections

Claims 1-11 are objected to because of the following informalities:

Claim 1 line 5, change "characterized in that the dielectric" to –wherein the dielectric—

Claim 2, line 1, change "characterized in that " to –wherein— (this appears in claims 3-11)

Claim 2, line 14, delete "a),".

Claim 2, line 15, delete "b),".

Claim 2, line 16, delete "c),".

Claim 2, line 17, delete "d),".

Claim 2, line 20, delete "e),".

Claim 2, line 21, delete "f),".

Claim 3, line 3, change "layer" to –layers--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 5, "the dielectric" is confusing. It is suggested to applicant to change this limitation to "the at least one dielectric".

Claim 2 is not in a proper markush format.

Claim 3, lines 1-2, the limitation, "the first electrode" is confusing. It is suggested to applicant to change this limitation to, "the at least one first electrode".

Claim 3, line 2, the limitation, "the second electrode" is confusing. It is suggested to applicant to change this limitation to "the at least one second electrode".

Claim 3, line 2 "and/or" is confusing.

Claim 4 lines 1-2, the limitation, "the first electrically conducting layer" is confusing.

Claim 4, line 2, the limitation, "the electrodes" is confusing.

Claim 5 lines 1-2, the limitation, "the second electrically conducting layer" is confusing.

Claim 5, line 2, the limitation, "the electrodes" is confusing.

Claim 7, line 2, the limitation, "the dielectric" is confusing.

Claim 8, line 2 "and/or" is confusing.

Claim 9, line 4, the limitation, "the dielectric" is confusing. It is suggested to applicant to change this limitation to "the at least one dielectric". Note this appears in claims 10-12.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2, 6, 8 & 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Findikoglu et al (US 5,538,941).

Findikoglu et al. disclose in fig.1b, a capacitor comprising: a carrier substrate (4), a first electrode (11), a dielectric layer (3) formed on the first electrode, a second electrode (12) formed on the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

Regarding claim 2, the ferroelectric ceramic is $SrTiO_3$ (see col. 3 lines 28-36).

Regarding claim 6, the carrier substrate can be formed from a silicon (see col. 3 lines 1-5).

Regarding claim 8, Findikoglu et al. disclose the claimed invention. Although Findikoglu et al. do not expressly disclose "a protective layer of an organic material or a an inorganic material is laid over the entire surface of the component", but Findikoglu et al. inherently has a protective element surrounding the entire component (i.e. a housing) to protect the system from the external environment.

Regarding claim 11, Findikoglu et al. disclose in fig. 1b, a delay line (see col. 2 lines 45-49) comprising: a carrier substrate (4), a first electrode (11), a dielectric layer (3) formed on the first electrode, a second electrode (12) formed on the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

Regarding claim 12, Findikoglu et al. disclose a use of a ceramic passive component which comprises: a carrier substrate (4), a first electrode (11), a dielectric layer (3) formed on the first electrode, a second electrode (12) formed on the dielectric

layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

Claims 1, 9, & 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Mueller et al. (US 6,097,263).

Mueller et al. disclose in fig. 1, 4, a ceramic passive component comprising: a carrier substrate (66), a first electrode (128b), a dielectric layer (124) formed on the first electrode, a second electrode (128a) formed on the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (col. 2 lines 48-53).

Regarding claim 9, Mueller et al. disclose in fig. 1, 4, an oscillator comprising a ceramic passive component comprising: a carrier substrate (66), a first electrode (128b), a dielectric layer (124) formed on the first electrode, a second electrode (128a) formed on the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (col. 2 lines 48-53).

Regarding claim 10, Mueller et al. disclose in fig. 1, 4, a filter comprising a ceramic passive component comprising: a carrier substrate (66), a first electrode (128b), a dielectric layer (124) formed on the first electrode, a second electrode (128a) formed on the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (col. 2 lines 48-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Findikoglu et al. (US 5,538,941).

Findikoglu et al disclose the claimed invention except for the dielectric is formed from multiple layers. Forming a dielectric from multiple layers is well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the dielectric from multiple layers, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al. (US 6,097,263).

Mueller et al. disclose the claimed invention except for one of the electrodes comprises at least first and second electrically conducting layers. It is well known in the art to form an electrode having two layers. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the first electrode from first and seconding layers, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Regarding claim 4, Muller discloses the claimed invention (see above in claim 3), except for the materials use as the first conducting layer. Titanium is a well known material used as electrodes in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the first electrically conducting layer from a titanium material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 5, Muller et al. discloses the claimed invention except for the material the second electrode is formed from. Metal is a well known material used as electrodes in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the second electrically conducting layer from a metal material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,329,261 – Discloses a RF limiter comprising the ferroelectric.

5,566,045 – Discloses electrode materials.

5,990,766 – Discloses the claimed invention.

6,014,575 – Discloses transmission delay line comprising the ferroelectric.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (703) 305-0878. The examiner can normally be reached on Mon-Thur & alternating Friday 6:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (703) 308-0640. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ewt
April 5, 2001

Dean A. Reichard 4/6/01
Dean A. Reichard
Primary Examiner